NATIONAL MARROW DONOR PROGRAM®

Entrusted to operate the C.W. Bill Young Cell Transplantation Program,
including Be The Match Registry®

January 28, 2011

CDR Sheri Parker
Office of Naval Research (ONR 342)
875 N. Randolph St.
Arlington, VA 22203-1995

Subject: **Quarterly Performance/Technical Report of the National Marrow Donor Program®**

Reference: Grant Award #N00014-10-1-0204 between the Office of Naval Research and the National Marrow Donor Program

Dear Cdr. Parker:

Enclosed is subject document which provides the performance activity for each statement of work task item of the above reference for the period of October 1, 2010 to December 31, 2010.

Should you have any questions as to the scientific content of the tasks and the performance activity of this progress report, you may contact our Chief Medical Officer – Dennis L Confer, MD directly at 612-362-3425.

With this submittal of the quarterly progress report, the National Marrow Donor Program has satisfied the reporting requirements of the above reference for quarterly documentation. Other such quarterly documentation has been previously submitted under separate cover.

Please direct any questions pertaining to the cooperative agreement to my attention (612-362-3403 or at cabler@nmdp.org).

Sincerely,

Carla Abler-Erickson

Carla Abler-Erickson, MA
Sr. Contracts Representative

Enclosure: Quarterly Report with SF298

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14. ABSTRACT

1. Contingency Prepardness: Collect information from transplant centers, build awareness of the Transplant Center Contingency Planning Committee and educate the transplant community about the critical importance of establishing a nationwide contingency response plan.

2. Rapid Identification of Matched Donors : Increase operational efficiencies that accelerate the search process and increase patient access are key to preparedness in a contingency event.

3. Immunogenetic Studies: Increase understanding of the immunologic factors important in HSC transplantation.

4. Clinical Research in Transplantation**:** Create a platform that facilitates multicenter collaboration and data management.

15. SUBJECT TERMS
Research in HLA Typing, Hematopoietic Stem Cell Transplantation and Clinical Studies to Improve Outcomes

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NATIONAL MARROW DONOR PROGRAM®

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Grant Award N00014-10-1-0204

QUARTERLY
PERFORMANCE / TECHNICAL REPORT
FOR
OCTOBER 01, 2010 to DECEMBER 31, 2010
PERIOD 3

Office of Naval Research

And

The National Marrow Donor Program
3001 Broadway Street N.E.
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IIA. Contingency Preparedness – Objective 1: Recovery of casualties with significant myelosuppression following radiation or chemical exposure is optimal when care plans are designed and implemented by transplant physicians	
IIA.1 Task 1: Secure Interest of Transplant Physicians	**Period 3 Activity:** • 57 new RITN staff members successfully completed the Basic Radiation Training Course (2297 total have been trained since 2006).
IIA.1 Task 2: GCSF in Radiation Exposure	**Period 3 Activity:** • No activity during this period.
IIA.1 Task 3: Patient Assessment Guidelines and System Enhancements	**Period 3 Activity:** • No activity during this period.
IIA 1 Task 4: National Data Collection Model	**Period 3 Activity:** • This Task is closed.
IIA. Contingency Preparedness – Objective 2: Coordination of the care of casualties who will require hematopoietic support will be essential in a contingency situation.	
IIA.2 Task 1: Contingency Response Network	**Period 3 Activity:** • At the end of calendar year 2010 RITN consisted of: 40 – transplant centers, 7 - donor centers, and 7 - cord blood banks. • 94% of RITN centers completed all of the required annual tasks: o Two centers have until February 28th to complete their tasks (both are new centers that did not confirm joining RITN until late in the contract period). o Previous year's completion data: FY09-98%, FY08-96%, FY07-96%, FY06-92%. • Conducted the first annual "RITN: Year in Review" Webinar for all RITN center staff, which was

	attended by over 43 RITN center staff members. • Evaluator exchange program was modified to be conducted by NMDP staff instead of RITN center staff; NMDP staff will assess readiness of RITN transplant centers using evaluation checklists. • Signed a Memorandum of Understanding with the Dartmouth Medical School's - New England Center for Emergency Preparedness to allow access to Health Care Standard (HCS) software at no charge to the NMDP or RITN centers; this software will replace WebEOC for emergency communications and coordination during a disaster. • Completed re-signing of Memorandums of Agreement for satellite telephones issued to RITN centers. • Conducted two monthly RITN conference calls and two monthly "Radiation in the News" reports (the third monthly call and reports were replaced by the "RITN: Year in Review" Webinar).
IIA.2 Task 2: Sibling Typing Standard Operating Procedures	**Period 3 Activity:** • Finalized the Related Donor Typing project Business Overview, which defines the high level scope and parameters of the project. • Initiated a Business Systems Requirements assessment to define the detailed business processes necessary to incorporate a related donor typing process into the existing NMDP systems for use during a mass casualty incident resulting in marrow toxic injuries. • Discontinued a Systems Requirements analysis as this is not feasible until the Phoenix project is completed.

IIA. Contingency Preparedness – Objective 3: NMDP's critical information technology infrastructure must remain operational during contingency situations that directly affect the Coordinating Center.	
IIA.3 Task 1: I.S. Disaster Recovery	**Period 3 Activity:** Disaster Recovery Test #19 Tier 1 was successfully conducted the first week of October 2010 with a Recovery Time of 42 hours. Tier 1 is comprised of the following Core Business critical applications and supporting systems with a Recovery Time Objective (RTO) of 48 hours: • STAR® 2 System • TRAXIS® • STAR Link® • SEARCH Link™ • CORD Link® • CRIS Link® • FormsNet™ 1 & 2 • KEY Link • Webmail • Mail Services • Network Website • Business 2 Business (B2B) services • Enterprise Service Bus (ESB) Factors that contributed to the success of the October 2010 DR Test include: • Use of the DR "Warm Site" which provides the opportunity to minimize efforts for recovering from a real disaster. • Use of the NetApps Filer Mirrors for database restorations which provides near real-time data without the use of tape restores. • Updated and validated documentation supporting new technologies implemented in DR. Example: Enterprise Service Bus (ESB) implemented in the past year was tested.

	• Utilization of the QA team to develop explicit test procedures as first line of validation. • Conducted a thorough system and application integration test with support from development staff.
IIA.3. Task 2: Critical Facility and Staff Related Functions	**Period 3 Activity:** **Business Continuity Activities this period included:** • Completed the distribution of business continuity kit items to operated centers. • Supported the Information Technology Disaster Recovery exercise by providing business unit input; specifically to assist in prioritization of system recovery. • Participated in the Federal Executive Board (FEB) Continuity of Operations Tabletop Exercise. • Completed DHS Operational Value of Threat, Risk and Vulnerability Assessment Course. • During this period of performance multiple communications tests were conducted to validate operability of the telephones and train staff on use of the bulk telephonic emergency notification system, the NMDP public announcement system, Government Emergency Telecommunications Service calling cards (GETS cards), and the satellite telephones issued to RITN centers. • Updated critical staff list. • Influenza season preparations: o Provided workplace influenza awareness training to all NMDP staff with a 92% completion rate for over 850 staff. o Updated pandemic influenza response SOPs. • Analysis and recommendations: o Assessed the Regus Business Center for feasibility as an alternate staff recovery site. This is ongoing as the initial assessment was not favorable however they have since modified their business practices and we will re-assess their feasibility with the new processes that are in place. o Conducted analysis on feasibility of continuing to have the Filter Paper Repository

	identified as a recovery location for the NMDP Call Center during a business interruption; determination was that it is not feasible. Alternative options will be explored. o Led the Safety Committee Evacuation Subcommittee; which recommended implementing floor wardens to facilitate building evacuations. o Recommended that IT incorporate system security, recovery and availability lines into the software development life cycle. o Assessed personal safety hazard at Oakland CA office and provided personal safety recommendations to visiting staff. o Analyzed and recommended the establishment of a Definitive Media Library as part of the Software Development Life Cycle to expedite system recovery process during a business disruption. o Created office weather closure guidelines for NMDP operated centers that were distributed by NMDP Operations.
IIB. Rapid Identification of Matched Donors – Objective 1: Increasing the resolution and quality of the HLA testing of volunteers on the registry will speed donor selection.	
IIB.1 Task 1: Increase Registry Diversity	**Period 3 Activity:** During the quarter, NMDP staff developed and implemented a new strategy to enhance the donor recruitment typing program through optimal use of NMDP contracted labs. The strategy preferentially targets younger and minority donors to laboratories providing higher resolution typing and/or include HLA-C. In addition, work continued on HLA discrepancy resolution and registry file maintenance.
IIB.1 Task 2: Evaluate HLA-DRB1 High Res typing	**Period 3 Activity:** • This Task is closed.
IIB.1 Task 3: Evaluate HLA-C Typing of Donors	**Period 3 Activity:** • This Task is closed.

IIB.1 Task 4: Evaluate Buccal Swabs	**Period 3 Activity:** • No activity this period.
IIB 1 Task 5: Enhancing HLA Data for Selected Donors	**Period 3 Activity:** • No activity this period.
IIB 1 Task 6: Maintain a Quality Control Program	**Period 3 Activity:** • This task is closed.
IIB. Rapid Identification of Matched Donors – Objective 2: Primary DNA typing data can be used within the registry to improve the quality and resolution of volunteer donor HLA assignments.	
IIB 2 Task 1: Collection of Primary Data	**Period 3 Activity:** • No activity this period.
IIB 2 Task 2: Validation of Logic of Primary Data	**Period 3 Activity:** • This Task is closed.
IIB 2 Task 3: Reinterpretation of Primary Data	**Period 3 Activity:** • This Task is closed.

IIB 2 Task 4: Genotype Lists & Matching Algorithm	**Period 3 Activity:**
	• Continued working on operationalizing the code in order to interpret all incoming SBT typings in real-time.
	  • Integrated SBT interpretation with GL library. Added interactive "Genotype List Tool" GUI to GL library, to facilitate testing and troubleshooting of HML primary data interpretation.
	  • Updated HML library to support HML version 0.3.3. Deployed DTD for HML version 0.3.3 to http://www.nmdp.org/DTD/hml-0.3.3.dtd.

	• Modified Star2 code to interpret (using new GL and HML libraries) and store SBT primary data. Code for the Star2 SBT interpretation feature is now ready to be integrated with other Star2 and GL changes bound for QA testing and eventual deployment to production.
IIB. Rapid Identification of Matched Donors – Objective 3: Registry data on HLA allele and haplotype frequencies and on the nuances of HLA typing can be used to design computer algorithms to predict the best matched donor.	
IIB.3 Task 1: Phase I of EM Haplotype Logic	**Period 3 Activity:** NMDP implemented changes related to the foundational platform of the matching algorithm in order to: • Improve performance • Increase flexibility for implementing and validating future algorithm changes • Increase accessibility of the matching algorithm to dependent applications • Reduce implementation redundancies Performance improvements are already being realized, but will be fully measured during the second quarter of FY2011 and reported subsequently. Additionally, as part of the re-platforming, a regression test suite has been implemented with the algorithm in order to improve overall quality and increase confidence when embarking upon future changes. This foundation will serve as the basis for implementation of 10 of 10 matching predictions.
IIB 3 Task 2: Enhancement of EM Algorithm	**Period 3 Activity:** • During this period, calculated rollup race haplotype frequencies for US populations for HapLogic III. • Created preliminary genomic-level haplotype frequencies (full WHO nomenclature) for simulating individuals typed by SSO/SBT methods.
IIB 3 Task 3: Optimal Registry Size Analysis	**Period 3 Activity:** • Planned and facilitated a Genetic Ancestry Summit in Washington, DC on November 2-3, 2010 to expand the understanding of how ancestry affects HLA

	• Initiated development of a comprehensive mathematical framework describing HLA high resolution and phase inference for use in different matching models for multiple populations with different self identified race and ethnicities within the Be The Match registry
	• Began addressing two specific problems in popchart:
	  • Monte Carlo sampling of haplotype pairs was not always sampling rare haplotypes for certain values of the sampling parameter.
	  • Correcting the one and two mismatch algorithms (specifically 5/6 and 4/6).

IIB 3 Task 4: Target Under- Repre-sented Phenotypes	**Period 3 Activity:** • Began internal modifications to map automation software. Maps are being tuned to incorporate BMDW participating country-specific frequency information, and US broad race information. • Continued building a comprehensive database to hold Imputation Experimentation data. Expanded model to include multiple methods of assigning broad ancestry, serologic-like phenotypes, and haplotypes with synthetic frequencies
IIB 3 Task 5: Bioinformatics Web Site	**Period 3 Activity:** • This Task is closed.
IIB 3 Task 6: Consultants to Improve Algorithm	**Period 3 Activity:** • This Task is closed.
IIB 3 Task 7: Population Genetics	**Period 3 Activity:** • This Task is closed.
IIB 3 Task 8: Haplotype Matching	**Period 3 Activity:** • This Task is closed.
IIB 3 Task 9: Global Haplotype/Benchmark	**Period 3 Activity:** • This Task is closed.

IIB. Rapid Identification of Matched Donors – Objective 4: Reducing the time and effort required to identify closely matched donors for patients in urgent need of HSC transplants will improve access to transplantation and patient survival in the context of a contingency response and routine patient care.	
IIB.4 Task 1: Expand Network Communications	**Period 3 Activity:** NMDP has initiated development on the B2B implementation of a Cord Blood Unit inventory exchange model. The following items have been completed: • Testing of modifications to B2B database schema to support inventory sharing. • Testing of new B2B Gateway database schema to support transaction sharing. • Development of the components required to share NMDP cord blood unit inventory with strategic partners, and to keep it updated. Work has begun for the development of the components required to receive, search and display other Registry cord blood unit inventory.
IIB.4 Task 2: Central Contingency Management	**Period 3 Activity:** **Donor Testing** Donor testing continued for a research project to validate the "actual" HLA-A, B, C and DRB1 (8/8) high resolution match rates for CAU, AFA, HIS, and API patients and supply valuable information regarding donor selection in the event of a contingency. Final testing for the four race group's 8/8 match rate continues. An abstract was submitted to ASBMT and accepted as an oral presentation at the BMT Tandem meetings in February 2011. This study is in the end stages and once completed, a manuscript will be written and submitted to a peer-reviewed journal. • In this period, donor testing was performed on 145 loci total for 114 donors and results compiled for the analysis.
IIB.4 Task 3: Benchmarking Analysis	**Period 3 Activity:** • This Task is closed.

IIB.4 Task 4: Expand Capabilities of Collection and Apheresis Centers	**Period 3 Activity:** • This Task is closed.
IIC. Immunogenetic Studies – Objective 1: HLA mismatches may differ in their impact on transplant outcome, therefore, it is important to identify and quantify the influence of specific HLA mismatches. In contingency situations it will not be possible to delay transplant until a perfectly matched donor can be found.	
IIC.1 Task 1: Donor Recipient Pair Project	**Period 3 Activity:** In 1994 a retrospective D/R Pair HLA typing project to characterize class I and class II alleles of donor/recipient paired samples from NMDP's Repository was initiated. The goals of this ongoing research project are to assay the impact of DNA-based HLA matching on unrelated donor transplant outcome, develop strategies for optimal HLA matching, evaluate the impact of matching at alternative HLA loci on transplant outcome and finally to promote the development of DNA-based high resolution HLA typing methodologies. Presence/absence typing of 14 KIR loci (2DL1-5, 2DS1-5, 3DL1-3 and 3DS1) has been included. • Typing of SG 27 came to a close on December 31, 2010. • 175 cord/recipient pairs were selected for SG 27. All 175 pairs will be typed for HLA and KIR. Whole Genome Amplified (WGA) DNA from 98 samples was used in the SG. • To date over 2100 pairs and 1180 additional donors have been typed for presence/absence of 14 KIR loci (2DL1-5, 2DS1-5, 3DL1-3 and 3DS1). Current HLA matching guidelines for unrelated HCT recommend avoidance of mismatches only within the Antigen Binding Domain (ABD). This recommendation is based on the hypothesis that amino acid differences outside the ABD are not immunogenic. The ABD allo-reactivity assessment project will give insight into the allowable percent tolerance of matching needed outside of the ABD. • Completed investigation of the first class II non-ABD mismatch (DRB1*140101/1454) where both alleles have been seen in the same genotype. 72 donors were invited to participate in the study. 21 study participants consented and submitted blood samples. Samples were cryopreserved at a centralized laboratory and will be distributed for testing in the next quarter.

	The Immunobiology Project Results (IPR) database and its applications will allow for storage and analysis of all immunogenetic data collected on NMDP research samples. This database will replace the existing HLA donor/recipient pair's database and facilitate storage and analysis of data from other immunogenetic loci (KIR, microsatellites, single nucleotide polymorphisms, etc). • The Audit Report and Audit Tool were released to production. • Conversion to Version 3 nomenclature was released to production. • Processing of all incoming results was moved from the previous 'HighRes' database into IPR. Sample group 27 (HLA and KIR) is being managed in IPR.
IIC. Immunogenetic Studies – Objective 2: Even when patient and donor are HLA matched, GVHD occurs so other loci may play a role.	
IIC 2 Task 1: Analysis of non-HLA loci	**Period 3 Activity:** **KIR** In 2005 a pilot study to perform high resolution KIR gene typing was launched. The primary objectives of the study were to move technology forward from the current practice of locus level typing to high resolution typing, disseminate information and protocols in an open source mechanism and develop reference lines for use in individual laboratories. • Physical typing and confirmation of all haplotypes not conforming published KIR haplotype structure is ongoing. • Preparation continued on the KIR Typing Project manuscript. Immunobiology Integration Data Base • During this period the population of data for the subject areas for Match Grades, Match Grade Variables, and Infectious Disease Markers were added to the Immunobiology Integrated Database in order to continue joining NMDP and CIBMTR data.
IIC 2 Task 2: Related Pairs Research Repository	**Period 3 Activity:** • No activity this quarter

IIC 2 Task 3: CIBMTR Integration	**Period 3 Activity:** • This Task is closed.
IID. Clinical Research in Transplantation – Objective 1: Clinical research in transplantation improves transplant outcomes and supports preparedness for a contingency response.	
IID.1 Task 1: Observational Research, Clinical Trials and NIH Transplant Center	**Period 3 Activity:** **Cord Blood Research** • The Duke and MD Anderson laboratory staff continued work on validating the assay methodologies to ensure consistent results were generated at both testing sites for the study investigating biomarkers associated with cord blood engraftment. o Initial statistical analysis of the validation testing results showed poor inter-lab methodology reliability for all assays performed. ▪ Further protocol development and testing at Duke showed improved intra-laboratory reliability for the ALDHbr assay. ▪ The study team planned for a validation assessment between Duke and MD Anderson using the revised protocol. The validation will be completed early next quarter. • Data from maternal samples and HLA typing data collected from participating CBBs to gather the necessary maternal HLA typing information for the NIMA study were analyzed. An abstract was written and submitted to EBMT (see IID1.3). • A white paper detailing recommendations/guidelines for the assessment of new assays (potency or other assays) relevant to cord blood banking and/or transplantation was submitted to Cytotherapy. The writing committee received and addressed reviewer comments/concerns. The revised manuscript will be submitted early next quarter. • Work began on the pilot study, "Exchange, analysis and standardization of cord blood CD34+ cell counts using ImmPort Flow Cytometry Analysis Component (FLOCK)", designed to assess a system for centralized flow cytometry based CD34 analysis. Flow cytometry data files from the 2009 and 2010 proficiency testing samples from multiple laboratories will be analyzed using FLOCK during the next quarter.

FormsNet

- Four successful production releases were completed supporting the reporting and business requirements for the Long Term Donor Follow-up and MDS trials.
- Migration of Legacy NMDP Recipient forms into the FormsNet 2 database has progressed. A testing approach was developed and proved. Conversion expected in March 2011.
- Business approval and tech review of the Business Requirements Definition (BRDs) are complete and the release schedules are prioritized 1st quarter 2011:
    - KIR-DS, CIBMTR Sample Tracking Application, 09 MRD Study
- All Audit Recipient module development milestones are complete. Release moved to Quality Assurance Testing for Feb 2011 implementation.
- Milestones for on FormsNet3 planning are on track
    - Forms Engine Part 1 BRD and Validation BRD in review
    - Form Specification template format definition completed
    - FN3 charter approved
    - Donor Audit BRD approved
    - Scanning/Imaging tool BRD approved

AGNIS

- Authorized five additional transplant centers to retrieve form data using the Stemsoft BMTBase 4.0 product, worked with 3 centers that had previously been set up to correct issues with their access.
    - A total of 18 centers have been authorized for form retrieval
    - 15 of these centers have retrieved completed forms through this AGNIS interface.
- Completed development, and quality assurance of the 100 day Post-HSCT comprehensive Follow-up form. This form has been released to the external development environment for transplant center

development.

- Improved error handling within the AGNIS publish function, issues encountered had prevented forms from being published to the AGNIS repository.
- Provided support for Memorial Sloan Kettering on their AGNIS development efforts, they have successfully submitted forms to the AGNIS external development environment.
- Provided support to EBMT development and form mapping efforts. EBMT completed their mapping to the Pre-Transplant Essential data form. They have begun testing of their Post-Transplant form mapppings.
- Began coding of AGNIS changes to accommodate assignment of patient unique identifier.
- Began coding of AGNIS changes to allow submission and retrieval of forms prior to form curation in the caDSR, quality assurance of this feature is still outstanding.

NIH Transplant Center

- NMDP provided support for donor/cord blood unit identification, selection and collection for the NIH intramural unrelated donor transplant program. Activity in the last quarter was as follows:
  - 14 formal searches
  - 31 donor confirmatory typing blood sample and IDM testing requests
  - 28 cord blood unit confirmatory typing requests
  - 6 PBSC collections

Observational Research

- Staff continued work on various observational studies within the area of Immunobiology, GVHD and Graft Sources Working Committees. Preparations began for the 2011 Tandem meetings.

Prospective Studies; RCI BMT

- During this quarter, follow up activities continued for donors participating in the PBSC vs. Marrow

	clinical trial. • Two patients were enrolled on the Adult Double Cord trial this quarter bringing the total accrual to thirty eight patients (76% complete). Staff continued to coordinate and complete monthly Principal Investigator and coordinator calls, manage data collection and monitor sites. • The survey research team continued to develop processes and add staff to support studies requiring their expertise. • Staff continued to work on implementation of the long-term donor follow-up protocol. The study opened October 1st, 2010.
IID.1 Task 2: Research with NMDP Donors	**Period 3 Activity:** • This Task is closed.
IID.1 Task 3: Expand Immuno-biology Research	**Period 3 Activity:** The CIBMTR IBWC met monthly during the quarter to discuss progress on ongoing research studies • The scientific director attended the ASH annual meeting in December and met with several investigators to plan study proposals for the IBWC annual meeting. • The scientific director and biostatistician participated in the preparation of two grant applications to support IBWC studies o Effie Petersdorf: UO1 – *Genetic Mechanisms of Survival Disparities after Unrelated Hematopoietic Stem Cell Transplantation"* o Fred Appelbaum: PO1 – *Adult Leukemia Center* • One manuscript were accepted for publication: o Lujia Dong, et al., *The outcomes of family haploidentical hematopoietic stem cell transplantation in hematological malignancies are not associated with patient age* BBMT 2010 Dec 29 [Epub ahead of print] • One manuscript was submitted for publication: o Zaiba Shamim, et al., *Polymorphism in the Genes Encoding Human Interleukin-7 Receptor-*

	alpha and Outcome after HCT with Matched Unrelated Donor. Submitted to Blood. • Six abstracts were submitted for presentation: o Ann Woolfrey, et al., *Evaluation of HLA matching requirements in unrelated hematopoietic stem cell transplantation for non-malignant disorders.* Accepted for oral presentation 2011 BMT Tandem Meetings o Carolyn Hurley, et al., *Scoring HLA mismatches by HistoCheck does not predict clinical outcome in HCT.* Accepted for oral presentation 2011 BMT Tandem Meetings o Takakazu Kawase, et al., *Universal role for HLA-C and KIR 2DL ligand mismatch in severe acute GVHD after unrelated donor hematopoietic stem cell transplantation in Japanese and Caucasian transplant recipients: An analysis on behalf of the international Histocompatibility working group in HCT.* Accepted for oral presentation 2011 BMT Tandem Meetings o Jeffrey Venstrom, et al., *Donor KIR2DS1 and KIR 3DS1 are associated with improved outcomes following unrelated allogeneic stem cell transplantation for acute myeloid leukemia.* Accepted for oral presentation 2011 BMT Tandem Meetings o Katharina Fleischhauer, et al., *Non-permissive HLA-DPB1 T-cell epitope disparities are associated with non-relapse mortality after unrelated stem cell transplantation and are not dependent on HLA-DPA1.* Accepted for oral presentation 2011 EBMT Meeting o Vanderson Rocha, et al., *Impact of matching at non-inherited maternal antigens (NIMA) on outcomes after 5/6 or 4/6 HLA mismatched unrelated cord blood transplantation for malignant hematological diseases. A matched pair analysis on behalf of Eurocord-EBMT, Netcord, NMDP and CIBMTR.* Accepted for oral presentation 2011 EBMT Meeting

ACRONYM LIST

AABB	American Association of Blood Banks	HSC	Health Care Standard
AAFA	African American (NMDP race code)	HSCT	Hematopoietic Stem Cell Transplant
AAR/IP	After Action Review/Improvement Plan	HWE	Hardy-Weinberg Equilibrium
ABMTR	Autologous Blood and Marrow Transplant Registry	IBMDR	Italian Bone Marrow Donor Registry
AC	Apheresis Center	IBMTR	International Bone Marrow Transplant Registry
AAFA	African American	IBWC	Immunobiology Working Committee
AFB	African	ICRHER	International Consortium for Research on Health Effects of Radiation
AFRRI	Armed Forces Radiobiology Research Institute	IDAWG	Immunogenetics Data Analysis Working Group
AGNIS	A Growable Network Information System	IDM	Infectious Disease Markers
AIM	Ancestry Informative Markers	Ig	Immunoglobulin
AINDI	South Asian	IHIWS	International Histocompatibility Work Shop
AISC	American Indian South or Central	IHWG	International Histocompatibility Working Group
ALANAM	Alaska Native or Aleut	IIDB	Immunobiology Integration Database
ALDH	Aldehyde Dehydrogenase	IIMMS	International Immunomics Society
ALDHbr	Aldehyde Dehydrogenase bright	IMGT	ImMunoGeneTics
AMIND	North American Indian	IND	Investigational New Drug
AML	Acute Myelogenous Leukemia	IND	Improvised Nuclear Device
API	Asian Pacific Islander	IPR	Immunobiology Project Results
ARC GIS	ArcGIS is a brand name: GIS = Geographical Information System	IRB	Institutional Review Board
ARS	Acute Radiation Syndrome (also known as Acute Radiation Sickness)	IS	Information Services
ARS	Antigen Recognition Site	IT	Information Technology
ASBMT	American Society for Blood and Marrow Transplantation	JAPI	Japanese
ASEATTA	Australian and South East Asian Tissue Typing	JCHO	Joint Commission of Healthcare Organizations

	Association		
ASH	American Society for Histocompatibility	KIR	Killer Immunoglobulin-like Receptor
ASHG	American Society of Human Genetics	KORI	Korean
ASHI	American Society for Histocompatibility and Immunogenetics	LSSG	Life Sciences Strategy Group
ASPR	Assistant Secretary for Preparedness and Response	LTA	Lymphotoxin Alpha
B2B	Business to Business	MALDI-TOF	Matrix-Assisted Laser Desorption/Ionization – Time Of Flight
BCP	Business Continuity Planning	MBS	Masters of Biological Science
B-LCLs	B-Lymphocytic Cell Lines	MCW	Medical College of Wisconsin
BARDA	Biomedical Advanced Research and Development Authority	MDACC	MD Anderson Cancer Center
BBMT	Biology of Blood and Marrow Transplantation	MDS	Myelodysplastic Syndrome
BMDW	Bone Marrow Donors Worldwide	MENAFC	MidEast/North Coast of Africa
BMT	Bone Marrow Transplant/Transplantation	MHC	Major Histocompatibility Complex
BMT CTN	Blood and Marrow Transplant - Clinical Trials Network	MICA	MHC Class I-Like Molecule, Chain A
BRIDG	Biomedical Research Integrated Domain Group	MICB	MHC Class I-Like Molecule, Chain B
BRD	Business Requirements Definition	mHAg	Minor Histocompatibility Antigen
BRT	Basic Radiation Training	MKE	Milwaukee
B2B	Business to Business	MOU	Memorandum of Understanding
caBIG	Cancer Biomedical Informatics Grid	MSKCC	Memorial Sloan-Kettering Cancer Center
caDSR	Cancer Data Standards Repository	MSP	Minneapolis
CARB	Black Caribbean	MSWHIS	Mexican or Chicano
CARHIS	Caribbean Hispanic	MUD	Matched Unrelated Donor
CARIBI	Caribbean Indian	NA	Not Applicable
CATI	Computer Assisted Telephone Interviewing	NAM	Native American
CAU	Caucasian	NAMER	North American
C&A	Certification and Accreditation	NCBI	National Center for Biotechnology Information

CBMTG	Canadian Blood and Marrow Transplant Group	NCBM	National Conference of Black Mayors
CBB	Cord Blood Bank	NCHI	Chinese
CBC	Congressional Black Caucus	NCI	National Cancer Institute
CBS	Canadian Blood Service	NEMO	N-locus Expectation-Maximization using Oligonucleotide typing data
CBT	Cord Blood Transplantation	NHLBI	National Heart Lung and Blood Institute
CBU	Cord Blood Unit	NIAID	National Institute of Allergy and Infectious Diseases
CC	Collection Center	NIH	National Institutes of Health
CDC	Centers for Disease Control	NIMS	National Incident Management System
CDISC	Clinical Data Interchange Standards Consortium	NK	Natural Killer
CEM	Certified Emergency Manager	NL	Netherlands
CEO	Chief Executive Officer	NLM	National Library of Medicine
CFO	Chief Financial Officer	NMDP	National Marrow Donor Program
CFU	Colony Forming Unit	NNSA	National Nuclear Security Administration
CHTC	Certified Hematopoeitic Transplant Coordinator	NRP	National Response Plan
CHS	Certified Histocompatibility Specialist	NST	Non-myeloablative Allogeneic Stem Cell Transplantation
CIBMTR	Center for International Blood & Marrow Transplant Research	OB	Obstretician
CIO	Chief Information Officer	OB/GYN	Obstetrics & Gynecology
CLIA	Clinical Laboratory Improvement Amendment	OCR/ICR	Optical Character Recognition/Intelligent Character Recognition
CME	Continuing Medical Education	OHRP	Office of Human Research Protections
CMF	Community Matching Funds	OIT	Office of Information Technology
CML	Chronic Myelogenous Leukemia	OMB	Office of Management and Budget
CMO	Chief Medical Officer	ONR	Office of Naval Research
COG	Children’s Oncology Group	OPA	Office of Patient Advocacy
CPI	Continuous Process Improvement	P2P	Peer-to-Peer

CREG	Cross Reactive Groups	PBMC	Peripheral Blood Mononuclear Cells
CRIS	Computerized Repository Inventory System	PBSC	Peripheral Blood Stem Cell
CRO	Chief Recruitment Officer	PCR	Polymerase Chain Reaction
CSF	Colony Stimulating Factors	PI	Principle Investigator
CSO	Chief Strategy Officer	PIN	Personal Identification Number
CSS	Center Support Services	POI	Procedures of Interaction
CSS	Custom Search Support	PSA	Public Service Announcement
CT	Confirmatory Testing	PT	Proficiency Testing
CTA	Clinical Trial Application	QAMS	Quality Assurance Membership Services
CWD	Common Well Documented	QARM	Quality Assurance and Risk Management
DC	Donor Center	QC	Quality control
DCAA	Defense Contract Audit Agency	RCC	Renal Cell Carcinoma
DIY	Do it yourself	RCI BMT	Resource for Clinical Investigations in Blood and Marrow Transplantation
DKMS	Deutsche Knochenmarkspenderdatei	RD Safe	Related Donor Safety
DMSO	Dimethylsulphoxide	REAC/TS	Radiation Emergency Assistance Center/Training Site
DNA	Deoxyribonucleic Acid	REDMO	Spanish Bone Marrow Donor Registry
DoD	Department of Defense	REMM	Radiation Event Medical Management
DOE	Department of Energy	RFA	Request for Application
D/R	Donor/Recipient	RFP	Request for Proposal
DR	Disaster Recovery	RFQ	Request for Quotation
DSA	Donor specific anti-HLA antibody	RG	Recruitment Group
DSMB	Data Safety Monitoring Board	RITN	Radiation Injury Treatment Network
DVD	Digital Video Disc	RT-PCR	Reverse Transcriptase-Polymerase Chain Reaction
EBMT	The European Group for Blood and Marrow Transplantation	SAA	Severe Aplastic Anemia
ECS	EMDIS Communication System	SBT	Sequence Based Typing
EDC	Electronic Data Capture	SCAHIS	South/Central American Hispanic
EFI	European Federation for Immunogenetics	SCAMB	Black South or Central America

ELISA	Enzyme-linked Immunosorbant Assay	SCSEAI	Southeast Asian
EM	Expectation Maximization	SCT	Stem Cell Transplantation
EMDIS	European Marrow Donor Information System	SCTOD	Stem Cell Therapeutics Outcome Database
ERSI	Environment Remote Sensing Institute	SEARCH	Page 10
ESB	Enterprise Service Bus	SG	Sample Group
FACS	Fluorescent Activated Cell Sorting	SLW	STAR Link® Web
FEB	Federal Executive Board	SNP	Single Nucleotide Polymorphism
FBI	Federal Bureau of Investigation	SNS	Strategic National Stockpile
FDA	Food and Drug Administration	SOA	Service Oriented Architecture
FDR	Fund Drive Request	SOP	Standard Operating Procedure
FGM	France Greffe de Moelle	SSA	Search Strategy Advice
FHCRC	Fred Hutchinson Cancer Research Center	SSO	Sequence Specific Oligonucleotides
FILII	Filipino	SSP	Sequence Specific Primers
FLOCK	Flow Cytometry Analysis Component	SSOP	Sequence Specific Oligonucleotide Probes
Fst	Fixation Index	SSRS	Sample Storage Research Study
FWA	Federal-wide Assurance		
FY	Fiscal Year	STAR	Search, Tracking and Registry
GETS	Government Emergency Telecommunications Service	TBI	Total Body Irradiation
G-CSF	Granulocyte-Colony Stimulating Factor (also known as filgrastim)	TC	Transplant Center
GIS	Geographic Information System	TED	Transplant Essential Data
GL	Genotype Liist	TNC	Total Nucleated Cell
GM-CSF	Granulocyte Macrophage Colony Stimulating Factor	TSA	Transportation Security Agency
GUI	Graphical User Interface		
GVHD	Graft vs. Host Disease	TTY	Text Telephone
Gy	Gray-measure of dose of irradiation	UCB	Umbilical Cord Blood
HAWI	Hawaiian or other Pacific Islander Unspecified	UCBT	Umbilical Cord Blood Transplant
HBCU	Historical Black Colleges and University	UI	User Interface

HC	Hematopoietic Cell	UK	United Kingdom
HCT	Hematopoietic Cell Transplantation	URD	Unrelated Donor
HHQ	Health History Questionnaire	US	United States
HHS	Health and Human Services	USB	Universal Serial Bus
HIEDFS	HLA Information Exchange Data Format Standards	VIET	Vietnamese
HIPAA	Health Insurance Portability and Accountability Act	WebEOC®	Web-based Emergency Operations Center
HIV	Human Immunodeficiency Virus	WGA	Whole Genome Amplification
HLA	Human Leukocyte Antigen	WHO	World Health Organization
HML	Histoimmunogenetics Mark-up Language	WMDA	World Marrow Donor Association
HR	High Resolution	WU	Work-up
HRSA	Health Resources and Services Administration	XML	Extensible Markup Language
HSC	Hematopoietic Stem Cell	ZKRD	Zertrales Knochenmarkspender – Register für die Bundesrepublik Deutchland